$K_0^*(1430)$

$I(J^P) = \frac{1}{2}(0^+)$

See our minireview in the 1994 edition and in this edition under the $f_0(1370)$.

$K_0^*(1430)$ MASS

VALUE (MeV)		DOCUMENT ID		TECN	CHG	COMMENT
1429 ±4±5	[1]	ASTON	88	LASS	0	11 $K^- p \to K^- \pi^+ n$
• • • We do not use the following data for averages, fits, limits, etc. • • •						
~ 1450	[2]	TORNQVIST	96	RVUE		$\pi\pi \to \pi\pi, K\overline{K}, K\pi$
~ 1430		BAUBILLIER	84B	HBC	–	8.25 $K^- p \to \overline{K}^0 \pi^- p$
~ 1425	[3,4]	ESTABROOKS	78	ASPK		13 $K^\pm p \to K^\pm \pi^\pm (n, \Delta)$
~ 1450.0		MARTIN	78	SPEC		10 $K^\pm p \to K_S^0 \pi p$

[1] Uses a model for the background, without this background they get a mass 1340 MeV, where the phase shift passes 90°.
[2] T-matrix pole.
[3] Mass defined by pole position.
[4] From elastic $K\pi$ partial-wave analysis.

$K_0^*(1430)$ WIDTH

VALUE (MeV)		DOCUMENT ID		TECN	CHG	COMMENT
287±10±21		ASTON	88	LASS	0	11 $K^- p \to K^- \pi^+ n$
• • • We do not use the following data for averages, fits, limits, etc. • • •						
~ 320	[5]	TORNQVIST	96	RVUE		$\pi\pi \to \pi\pi, K\overline{K}, K\pi$
~ 200		BAUBILLIER	84B	HBC	–	8.25 $K^- p \to \overline{K}^0 \pi^- p$
200 to 300	[6]	ESTABROOKS	78	ASPK		13 $K^\pm p \to K^\pm \pi^\pm (n, \Delta)$

[5] T-matrix pole.
[6] From elastic $K\pi$ partial-wave analysis.

$K_0^*(1430)$ DECAY MODES

	Mode	Fraction (Γ_i/Γ)
Γ_1	$K\pi$	(93±10) %

$K_0^*(1430)$ BRANCHING RATIOS

$\Gamma(K\pi)/\Gamma_{total}$ **Γ_1/Γ**

VALUE	DOCUMENT ID		TECN	CHG	COMMENT
0.93±0.04±0.09	ASTON	88	LASS	0	11 $K^- p \to K^- \pi^+ n$

$K_0^*(1430)$ REFERENCES

TORNQVIST	96	PRL 76 1575	+Roos	(HELS)
ASTON	88	NP B296 493	+Awaji, Bienz, Bird+	(SLAC, NAGO, CINC, INUS)
BAUBILLIER	84B	ZPHY C26 37	+	(BIRM, CERN, GLAS, MICH, CURIN)
ESTABROOKS	78	NP B133 490	+Carnegie+	(MCGI, CARL, DURH, SLAC)
MARTIN	78	NP B134 392	+Shimada, Baldi, Bohringer+	(DURH, GEVA)

OTHER RELATED PAPERS

TORNQVIST	82	PRL 49 624		(HELS)
GOLDBERG	69	PL 30B 434	+Huffer, Laloum+	(SABRE Collab.)
SCHLEIN	69	Argonne Conf. 446		(UCLA)
TRIPPE	68	PL 28B 203	+Chien, Malamud, Mellema, Schlein+	(UCLA)